

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO.

FOR  
SACRAMENTO RENDERING COMPANIES  
RANCHO CORDOVA RENDERING PLANT  
SACRAMENTO COUNTY

The Discharger shall comply with this Monitoring and Reporting Program (MRP), issued pursuant to Water Code Section 13267, which describes requirements for monitoring industrial process wastewater and groundwater. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each sample shall be recorded on the sample chain of custody form. Field test instruments (such as those used to measure pH and dissolved oxygen) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are calibrated prior to each monitoring event;
3. The instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of the MRP.

**WASTEWATER POND MONITORING**

The finger lagoons, winter storage ponds, and irrigation mixing ponds shall be monitored as follows:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Influent Flow <sup>1</sup>	gpd	Meter Reading	Daily	Monthly
Flows to Mixing Ponds				
Wastewater Flow <sup>2</sup>	gpd	Meter Reading	Daily	Monthly
Fresh Water Flow <sup>2</sup>	gpd	Meter Reading	Daily	Monthly
Freeboard	0.1 feet	Staff Gauge Measurement	Weekly	Monthly
Dissolved Oxygen	mg/L	Grab	Weekly	Monthly
Odors	--	Observation	Weekly	Monthly

<sup>1</sup> Report as total daily flow from the DAF unit to the finger lagoons.

<sup>2</sup> Report as total daily flow to each mixing pond. If there is no flow meter, flow may be estimated by a calibrated pump curve and pump run times.

### FINGER LAGOON INFLUENT AND EFFLUENT MONITORING

Influent samples shall be collected at a point downstream of the DAF unit to represent the discharge to the first finger lagoon. Effluent samples shall be collected at a point downstream of the last finger lagoon prior to discharge to land application areas or storage ponds. At a minimum, the Discharger shall monitor the finger lagoon influent and effluent as follows:

Constituent/Parameter	Units	Sample Type	Sampling Frequency		Reporting Frequency
			Influent	Effluent	
Total dissolved solids	mg/L	Grab	Monthly	Weekly	Monthly
Fixed dissolved solids	mg/L	Grab	Monthly	Monthly	Monthly
BOD <sub>5</sub> <sup>1</sup>	mg/L	Grab	Monthly	Monthly	Monthly
Total Kjeldahl nitrogen	mg/L	Grab	Monthly	Weekly	Monthly
Ammonia nitrogen	mg/L	Grab	Monthly	Weekly	Monthly
Nitrate nitrogen	mg/L	Grab	Monthly	Weekly	Monthly
Sodium	mg/L	Grab	Monthly	Monthly	Monthly
Chloride	mg/L	Grab	Monthly	Monthly	Monthly
Magnesium	mg/L	Grab	Monthly	Monthly	Monthly

<sup>1</sup> 5-day, 20°C Biochemical Oxygen Demand.

### EFFLUENT MONITORING

During periods of discharge to the land application areas, the Discharger shall monitor the quantity and quality of the discharge. The Discharger shall establish one or more permanent monitoring stations within the wastewater conveyance system as needed to ensure that all samples are representative of the actual discharge to the fields. At a minimum, the Discharger shall monitor the effluent wastewater as follows:

Constituent/Parameter	Units	Sample Type	Sampling Frequency	Reporting Frequency
Flow to each field	gallons	Measurement	Daily	Monthly
pH	pH units	Grab	Weekly	Monthly
Total dissolved solids	mg/L	Grab	Monthly	Monthly
Fixed dissolved solids	mg/L	Grab	Monthly	Monthly
Suspended Solids	mg/L	Grab	Weekly	Monthly
BOD <sub>5</sub> <sup>1</sup>	mg/L	Grab	Weekly	Monthly
Total Organic Carbon	mg/L	Grab	Weekly	Monthly
Total Kjeldahl Nitrogen	mg/L	Grab	Weekly	Monthly

Constituent/Parameter	Units	Sample Type	Sampling Frequency	Reporting Frequency
Ammonia Nitrogen	mg/L	Grab	Weekly	Monthly
Nitrate Nitrogen	mg/L	Grab	Weekly	Monthly
Other Salinity Species <sup>2</sup>	mg/L	Grab	Weekly	Monthly

<sup>1</sup> 5-day, 20°C Biochemical Oxygen Demand.

<sup>2</sup> Includes boron, chloride, iron, magnesium, manganese, sodium, phosphorus, potassium, sulfide, sulfite, and sulfate. Samples for iron and manganese shall be filtered with a 0.45-micron filter prior to sample preservation.

## LAND APPLICATION AREA MONITORING

### A. Daily Pre-Application Inspections

The Discharger shall inspect the land application areas at least **once daily** prior to and during irrigation events, and observations from those inspections shall be documented for inclusion in the monthly monitoring reports. The following items shall be documented for each check or field to be irrigated on that day:

- a. Evidence of erosion;
- b. Containment berm condition;
- c. Condition of each standpipe and flow control valve (if applicable);
- d. Proper use of valves;
- e. Soil saturation;
- f. Ponding;
- g. Tailwater ditches and potential runoff to off-site areas;
- h. Potential and actual discharge to surface water;
- i. Odors that have the potential to be objectionable at or beyond the property boundary; and
- j. Insects.

Temperature; wind direction and relative strength; and other relevant field conditions shall also be observed and recorded. The notations shall also document any corrective actions taken based on observations made. A copy of entries made in the log during each month shall be submitted as part of the Monthly Monitoring Report. If no irrigation with wastewater takes place during a given month, then the monthly monitoring report shall so state.

### B. Routine Monitoring

The Discharger shall perform the following routine monitoring and loading calculations during all months when land application occurs, and shall present the data in the Monthly and Annual Monitoring Reports.

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Precipitation	0.1 in.	Rain Gauge <sup>1</sup>	Daily	Monthly, Annually
Irrigation fields and checks receiving wastewater	--	Observation	Daily	Monthly, Annually
Hydraulic loading rate				
Wastewater	in.	Calculated <sup>2</sup>	Daily	Monthly, Annually
Fresh water	in.	Calculated <sup>2</sup>	Daily	Monthly, Annually
BOD loading rate	lb/ac/day	Calculated <sup>2,3</sup>	Daily	Monthly, Annually
Wastewater nitrogen loading rate	lb/ac/day	Calculated <sup>2,4</sup>	Daily	Monthly, Annually
Nitrogen loading rate, other sources (fertilizer, etc.)	lb/ac/mo	Calculated <sup>2,5</sup>	Monthly	Monthly, Annually
Total dissolved solids loading rate	lb/ac/mo	Calculated <sup>2,4</sup>	Monthly	Monthly, Annually
Fixed dissolved solids loading rate	lb/ac/mo	Calculated <sup>2,4</sup>	Monthly	Monthly, Annually

<sup>1</sup> Data obtained from the nearest National Weather Service rain gauge is acceptable.

<sup>2</sup> Rate shall be calculated for each irrigation check.

<sup>3</sup> BOD<sub>5</sub> shall be calculated using the daily applied volume of wastewater, actual application area, and the average of the three most recent BOD<sub>5</sub> results.

<sup>4</sup> Total nitrogen and TDS/FDS loading rates shall be calculated using the applied volume of wastewater, actual application area, and the average of the three most recent effluent monitoring results.

<sup>5</sup> Loading rates for supplemental nitrogen shall be calculated using the actual load and the application area.

## GROUNDWATER MONITORING

Prior to construction and/or sampling of any groundwater monitoring wells, the Discharger shall submit plans and specifications to the Board for review and approval. Unless otherwise expressly approved, water supply wells shall not be used as monitoring wells. Once installed, all new monitoring wells shall be added to the MRP and shall be sampled and analyzed according to the schedule below.

Prior to sampling, the groundwater elevations shall be measured and the wells shall be purged of at least three well volumes until temperature, pH, and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet. Samples shall be collected and analyzed using standard EPA methods. Groundwater monitoring shall include, at a minimum, the following:

Constituent/Parameter	Units	Sample Type	Sampling Frequency <sup>3</sup>	Reporting Frequency
Depth to Groundwater	feet	Measurement	Quarterly	Quarterly
Groundwater Elevation <sup>1</sup>	feet	Calculated	Quarterly	Quarterly
Gradient Magnitude	feet/feet	Calculated	Quarterly	Quarterly
Gradient Direction	degrees	Calculated	Quarterly	Quarterly
pH	pH Units	Grab	Quarterly	Quarterly
Total Dissolved Solids	mg/L	Grab	Quarterly	Quarterly
Fixed Dissolved Solids	mg/L	Grab	Quarterly	Quarterly
Ammonia Nitrogen	mg/L	Grab	Quarterly	Quarterly
Nitrate Nitrogen	mg/L	Grab	Quarterly	Quarterly
Other Salinity Species <sup>2</sup>	mg/L	Grab	Quarterly	Quarterly

<sup>1</sup> Groundwater elevation shall be determined based on depth-to-water measurements using a surveyed measuring point elevation on the well and a surveyed reference elevation.

<sup>2</sup> Includes boron, chloride, iron, magnesium, manganese, sodium, phosphorous, potassium, sulfide, sulfite, and sulfate. Samples for iron and manganese shall be filtered with a 0.45-micron filter prior to sample preservation.

<sup>3</sup> The five existing wells shall be monitored quarterly upon adoption of this Order. Effective upon installation of the new wells pursuant to the Provisions of this Order, groundwater shall be sampled monthly for all wells until eight monthly sampling events have been completed. Thereafter, the sampling and reporting frequency shall be quarterly.

### STORM WATER MONITORING

The Discharger shall monitor the quality of storm water discharged from the land application areas to surface water. Permanent sampling locations shall be established to provide representative samples from each of the following: a background pasture area, Field 1, Field 2, Field 3, Field 4, Field 5, Frye Creek upgradient of Outfall OpA, Outfall OpA, Outfall BP, and Frye Creek downgradient of Outfall BP. Samples shall be obtained monthly during the first precipitation event that generates sufficient runoff during the rainy season (15 October through 15 April). However, sampling may be deferred to the next weekday during daylight hours as needed.

Constituent/Parameter	Units	Sample Type	Sampling and Reporting Frequency
pH	pH Units	Grab	Monthly
BOD	mg/L	Grab	Monthly
Total dissolved solids	mg/L	Grab	Monthly
Total Kjeldahl nitrogen	mg/L	Grab	Monthly
Ammonia nitrogen	mg/L	Grab	Monthly
Nitrate nitrogen	mg/L	Grab	Monthly
Other salinity species <sup>1</sup>	mg/L	Grab	Monthly

<sup>1</sup> Includes chloride, iron, manganese, sodium, and sulfate.

## REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent, groundwater), sampling location, and the reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported in the next scheduled monitoring report.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all groundwater monitoring reports shall be prepared under the direct supervision of a California-registered professional and signed by the registered professional.

### A. Monthly Monitoring Reports

Monthly reports shall be submitted to the Regional Board on the **1<sup>st</sup> day of the second month following sampling** (i.e., the January report is due by 1 March). At a minimum, the reports shall include:

1. Results of pond, finger lagoon influent/effluent, effluent, land application area, and storm water monitoring, and daily precipitation data. Data shall be presented in tabular format.
2. If storm water samples were not collected because there was no rainfall during the month, the report shall so state.
3. Daily pre-irrigation inspection reports.
4. A comparison of monitoring data to the discharge specifications and applicable limitations and an explanation of any violation of those requirements.
5. When requested by staff, copies of laboratory analytical report(s).
6. Calibration log(s) verifying calibration of any field monitoring instruments (e.g., DO, pH, and EC meters) used to obtain data.

### B. Quarterly Monitoring Reports

**Effective on the date of this MRP**, the Discharger shall establish a quarterly groundwater sampling schedule such that samples are obtained approximately every three months. However, **upon completion of the new monitoring wells** required by the Provisions, the Discharger shall temporarily establish a monthly groundwater sampling schedule until eight consecutive monitoring events have been completed for all wells. **Thereafter**, the groundwater sampling frequency shall revert to quarterly.

Quarterly monitoring reports shall be submitted to the Board by the **1<sup>st</sup> day of the second month after the quarter** (i.e. the January-March quarter is due by May 1<sup>st</sup>) each year. The Quarterly Report shall include the following:

1. Results of groundwater monitoring.

2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDR, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged.
3. Calculation of groundwater elevations, an assessment of groundwater flow direction and gradient on the date of measurement, comparison of previous flow direction and gradient data, and discussion of seasonal trends if any.
4. A narrative discussion of the analytical results for all groundwater locations monitored including spatial and temporal trends, with reference to summary data tables, graphs, and appended analytical reports (as applicable).
5. A comparison of monitoring data to the groundwater limitations and an explanation of any violation of those requirements.
6. Summary data tables of historical and current water table elevations and analytical results.
7. A scaled map showing relevant structures and features of the facility, the disposal check boundaries, the locations of monitoring wells, and groundwater elevation contours referenced to mean sea level datum.
8. Copies of laboratory analytical report(s) for groundwater monitoring.

### **C. Annual Report**

An Annual Report shall be submitted to the Regional Board by **1 February** of each year. The Annual Report shall present a summary of all monitoring data obtained during the previous calendar year, and shall include the following. The Annual Report may also include the contents of the 4<sup>th</sup> Quarterly Monitoring Report.

1. If requested by staff, tabular and graphical summaries of all data collected during the year with data arranged to confirm compliance with the WDRs.
2. An evaluation of the performance of the pretreatment systems and finger lagoons.
3. An evaluation of the groundwater quality at the facility.
4. An evaluation of storm water quality and the need for additional retention or other controls to improve runoff quality.
5. A narrative description of wastewater residual solids disposal practices.
6. A discussion of compliance and the corrective action taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements.
7. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.
8. A forecast of influent flows for the coming year, as described in Standard Provision No. E.4.

A letter transmitting the self-monitoring reports shall accompany each report. The letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions General Reporting Requirements Section B.3.

The Discharger shall implement the above monitoring program as of the date of this Order.

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THOMAS R. PINKOS, Executive Officer

ALO:11/10/2005

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(date)